

## **Targeted Immune Modulators**

### **Key Questions and Inclusion Criteria**

#### *Update #3*

#### **Key Questions**

1. How do included drugs compare in their efficacy and long-term effectiveness for alleviating symptoms and stabilizing the disease in patients with rheumatoid arthritis, juvenile rheumatoid arthritis, ankylosing spondylitis, psoriatic arthritis, Crohn's disease, ulcerative colitis, or plaque psoriasis?
2. What are the comparative incidence and severity of harms associated with the use of these drugs?
3. Do the included drugs differ in effectiveness or harms in the following subgroups:
  - Different genders, or different racial, age or socioeconomic groups?
  - Patients with co-morbidities?
  - Patients taking other commonly prescribed drugs?
  - Patients with early aggressive vs. persistent rheumatoid arthritis

#### **Inclusion criteria**

##### Population

- Adult patients with moderately to severe rheumatoid arthritis
- Pediatric patients with juvenile rheumatoid arthritis
- Adult patients with ankylosing spondylitis
- Adult and pediatric patients with psoriatic arthritis
- Adult and pediatric patients with Crohn's disease
- Adult and pediatric patients with ulcerative colitis
- Adult and pediatric patients with plaque psoriasis

##### Interventions

###### Anti TNF

- Adalimumab (Humira<sup>®</sup>)
- Etanercept (Enbrel<sup>®</sup>)
- Certolizumab Pegol (Cimzia<sup>®</sup>)
- Golimumab (Simponi<sup>®</sup>)
- Infliximab (Remicade<sup>®</sup>)

###### Interleukin-1 Receptor antagonist

- Anakinra (Kineret<sup>®</sup>)

Anti-CD11a

- Alefacept (Amevive<sup>®</sup>)

Cytotoxic T lymphocyte antigen immunoglobulin (CTLA 4-Ig)

- Abatacept (Orencia<sup>®</sup>)

Anti - CD 20a

- Rituximab (Rituxan<sup>®</sup>)

Anti - IgG4

- Natalizumab (Tysabri<sup>®</sup>)

Anti - IL6

- Tocilizumab (Actemra<sup>®</sup>, RoActemra<sup>®</sup>)

Anti-IL 12/23

- Ustekinumab (Stelara<sup>®</sup>)

Effectiveness outcomes

- Quality of Life
- Functional capacity
- Employability, productivity
- Clinical improvement (e.g. ACR, DAS, BASFI, PASI)
- Disease remission
- Pain
- Reduction in the number of swollen or tender joints
- Hospitalizations
- Mortality
- Rebound
- Joint destruction (i.e. radiographic progression)
- Steroid withdrawal

Harms

- Overall adverse events
- Withdrawals due to adverse events
- Serious adverse events reported
- Specific adverse events (e.g. lymphoma, serious infectious diseases, congestive heart failure)

Study design

- For effectiveness, controlled clinical trials, controlled prospective cohort studies, and good quality systematic reviews
- For harms, in addition to controlled clinical trials, observational studies will be included.